



IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Huck Khim Koay, et al.

Serial No.: 09/888857

Examiner: Kenelt Pierre

Filing Date: June 25, 2001

Group Art Unit: 2822

Title: Light Source

COMMISSIONER FOR PATENTS
Washington, D.C. 20231

TRANSMITTAL LETTER FOR RESPONSE/AMENDMENT

Sir:

Transmitted herewith is/are the following in the above-identified application:

- (X) Response/Amendment () Petition to extend time to respond
() New fee as calculated below () Supplemental Declaration
(X) No additional fee (Address envelope to "Box Non-Fee Amendments")
() Other: (fee \$)

CLAIMS AS AMENDED BY OTHER THAN A SMALL ENTITY						
(1) FOR	(2) CLAIMS REMAINING AFTER AMENDMENT	(3) NUMBER EXTRA	(4) HIGHEST NUMBER PREVIOUSLY PAID FOR	(5) PRESENT EXTRA	(6) RATE	(7) ADDITIONAL FEES
TOTAL CLAIMS		MINUS		= 0	X \$18	\$ 0
INDEP. CLAIMS		MINUS		= 0	X \$84	\$ 0
[] FIRST PRESENTATION OF A MULTIPLE DEPENDENT CLAIM					+ \$280	\$ 0
EXTENSION FEE	1ST MONTH \$110.00	2ND MONTH \$400.00	3RD MONTH \$920.00	4TH MONTH \$1440.00		\$ 0
OTHER FEES						\$
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT						\$ 0

Charge \$ 0 to Deposit Account 50-1078. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account 50-1078 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 50-1078 under 37 CFR 1.16, 1.17, 1.19, 1.20 and 1.21. A duplicate copy of this sheet is enclosed.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231.

Respectfully submitted,

Huck Khim Koay, et al.

By Herbert R. Schulz

Date of Deposit: Jan. 6, 2003

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Examiner: Kenelt Pierre

Group Art Unit: 2822

Serial no.: 09/888,857

RESPONSE TO
OFFICE ACTION

Filing date: June 25, 2001

Title: Light Source

Atty Docket: 70990051-3

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Commissioner of Patents and Trademarks
Washington DC 20231

SIR:

TECHNOLOGY CENTER 2800

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Claims 1 through 6 were presented for examination. In a final office action mailed November 6, 2002, claims 1, 3 and 5 were rejected as unpatentable over U.S. Patent 6,069,440 (Shimizu *et al.*) in view of U.S. Patent 5,777,433 (Lester *et al.*); claim 2 was rejected as unpatentable over Shimizu and Lester in view of U.S. Patent 5,298,768 (Okazaki *et al.*); and claims 4 and 6 were rejected as unpatentable over Shimizu and Lester in view of U.S. Patent 6,045,240 (Hochstein).

Reconsideration is respectfully requested.

Applicants respectfully object to the finality of the office action. Claims 1 through 5 were previously presented for examination and were rejected. Applicants did not amend these claims; rather, Applicants presented arguments why these claims are allowable. In response to Applicants' arguments, these five claims were rejected on the new grounds set forth above. Applicants did not amend these claims and therefore it is not correct to say that "Applicant's amendment necessitated the new grounds of rejection." Although claim 6 was added, the presence of this new dependent claim did not require a new ground of rejection of the other five claims. Accordingly, it is requested that the finality of the office action be withdrawn and, if after considering the following arguments the Examiner still considers the claims not to be allowable, the office action be converted into a non-final action.

Turning now to claim 1, the Examiner correctly notes that Shimizu fails to disclose the following: a planar substrate, first and second interconnects between surfaces of the substrate, transparent encapsulant, and connecting the LED to a terminal using a metallic layer. The Examiner then suggests that Lester discloses these features (office action page 4, lines 14-20). But Lester shows no substrate and no interconnects. Fig 1 of Lester shows an overall view of an LED device in which a chip 12 is supported by a connecting lead 15. This structure is similar to the chip 102 and the connecting lead 105 in Fig. 1 of Shimizu. Lester discloses, not a substrate or interconnects, but a high-refractive-index package material (abstract line 1; column 1 lines 9-11). Combining Lester with Shimizu, assuming any motivation to do so, would yield the device as shown in Fig 1 of Shimizu with a high-refractive-index package. This is not the invention described in claim 1. Moreover, Applicants respectfully disagree that there would have been any motivation to combine these references. Therefore, it is submitted that claim 1 is allowable over the combination of Shimizu and Lester.

Claims 2, 3 and 5 all depend from claim 1. It is therefore submitted that claims 2, 3 and 5 are also allowable.

Further respecting claim 2, Okazaki is cited as showing a metallic coating on a sloping side-wall. ~~But Okazaki also~~ discloses a different type of structure in which there is a hole 21 through a substrate 4 with different interconnects 18 and 19 applied as plating to opposite sides of the hole. It does not appear that there would be any advantage to making holes in the devices shown by Lester or Shimizu. Applicants therefore respectfully disagree that it would have been obvious to combine these references. But even if such a combination were attempted, it would not result in the invention as per claim 2. Therefore, claim 2 is allowable over these references.

Claim 4 was rejected as unpatentable over Shimizu and Lester in view of Hochstein. Hochstein is directed to the problem of heat dissipation in a traffic light having many LEDs as well as incandescent bulbs in the same housing. Applicants respectfully disagree that there would have been any motivation to combine Hochstein with the other references. To the contrary, Shimizu and Lester are directed to individual LEDs whereas Hochstein is directed to an assembly of many LEDs. Combining these references would require mounting many LEDs of the kind

described by Lester and Shimizu in the structure described by Hochstein. This would not yield the invention as described in claim 4. Accordingly, it is submitted that claim 4 is allowable over the cited references.

Claim 6 is directed to an LED in which there is an ellipsoidal dome having a major axis equal to the length, and a minor axis equal to the width, of the substrate. None of the references discloses any such structure. Hochstein Fig 3 shows a plurality of LEDs with some type of cover over them, but there is no indication that there is any ellipsoidal shape. To the contrary, since Hochstein discloses a traffic light assembly, one would expect the assembly to be round, not ellipsoidal. Therefore, it is submitted that claim 6 is allowable over the references.

For the foregoing reasons, the claims are believed to be allowable and an action to that effect is respectfully requested.

Nothing in either reference suggests combining it with the other. And if such a combination were attempted, it would not provide the present invention. Accordingly, it is submitted that claim 4 is patentable over the references.

New claim 6 describes the dimensions of the ellipsoid in relation to the dimensions of the substrate, as disclosed in Figure 2 of the application. These dimensions allow for a particularly compact configuration that is neither disclosed nor suggested by Yoshinori. Accordingly the applicants submit that claim 6 is allowable over the cited references.

For the foregoing reasons, the case is believed to be in condition for allowance and an action to that effect is respectfully requested.

Respectfully submitted,

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